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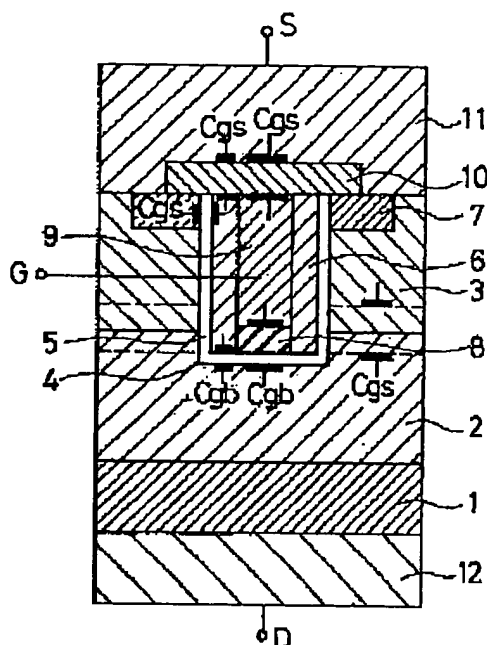
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INVENTOR : ANDO TAKAYOSHI;

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TITLE : SEMICONDUCTOR DEVICE



ABSTRACT : PROBLEM TO BE SOLVED: To actualize the semiconductor device which is reduced in gate electrode resistance and on-resistance, as to a longitudinal field effect transistor having a trench groove.

SOLUTION: This semiconductor device which has a first diffusion layer 3 of second conductivity type and a second diffusion layer 7 of a first conductivity type formed doubled on the surface part of a first conductivity type semiconductor substrate 1 or first conductivity type epitaxial layer 2, has a trench groove 4 where a gate oxide film 5 and a gate electrode 6 are embedded on the surface and also has a channel arranged longitudinally along the depth of the trench groove 4 is constituted by etching part of the gate electrode 6 along the depth of the trench groove 4 and thus forming a hollow part, and then embedding an oxide film layer 8 thicker than the gate oxide film 5 at the bottom part of the hollow part and further metal with conductivity larger than that of the gate electrode on it.

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